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AUTHOR DeBruin-Parecku, Andrea
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ABSTRACT

This paper reviews the existing research on joint storybook reading practices, outlining the behaviors essential for success. It then describes and reports on the efficacy of an assessment instrument, the Adult/Child Interactive Reading Inventory (ACIRI). The ACIRI is an observational tool for assessing the joint reading behaviors of both adults and children which is intended to encourage good instruction and authentic, friendly assessment. It also helps teachers working with parents and children determine where to focus their instructional efforts. The ACIRI evaluates 12 literacy behaviors in three categories: (1) enhancing attention to text; (2) promoting interactive reading/supporting comprehension; and (3) using literacy strategies. This instrument was piloted within Even Start, a federal project providing support and educational services to high-risk families with young children. The Even Start teachers collected data on 29 mothers and their children. These teachers routinely observed joint reading in the mothers' homes, evaluating them with the ACIRI in September and again in May. Results indicated that adults and children improved over time in all categories. The more comfortable adults were reading with their children, the higher the ACIRI scores were. Contains 50 references and 5 tables of data; the ACIRI is attached. (Author/RS)

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CIERA REPORT

Assessing Adult/Child Storybook Reading Practices

Andrea DeBruin-Parecki
University of Northern Iowa

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Assessing Adult/Child Storybook Reading Practices

CIERA REPORT #2-004

Andrea DeBruin-Parecki
University of Northern Iowa

CIERA Inquiry 2: Home and School
What behaviors, when practiced by adults reading with children, enhance children's engagement in reading? How can we help parents learn joint reading techniques that can contribute to their children's literacy development?

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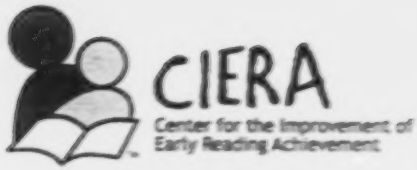

University of Michigan School of Education

610 E University Ave., Rm 1600 SEB
Ann Arbor, MI 48109-1259

734.647.6940 voice
734.763.1229 fax
ciera@umich.edu

www.ciera.org

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Assessing Adult/Child Storybook Reading Practices

Andrea DeBruin-Parecki
University of Northern Iowa

The phrase "The parent is the child's first teacher" is well established as the credo of Family Literacy programs (Barbara Bush Foundation for Family Literacy, 1989; Darling, 1988; McKee & Rhett, 1995; Taylor, 1983). Along with this notion comes responsibility. To assist a child in establishing good literacy habits that lead to clearer understandings, improved critical thinking, consistent use of strategies, and motivation to learn, parents must establish these habits themselves. Instruction in these areas can take place within the context of interactive sessions. It has been shown that the incorporation and practice of specific behaviors during joint book reading can promote future academic success for children as they enter school (Cochran-Smith, 1984; Flood, 1977; Morrow, 1983). The desire to help their children to become academically successful is one of the primary reasons adults choose to enter Family Literacy programs (Brizius & Foster, 1993; Edwards, 1994, 1995).

If one were to walk into most Family Literacy programs in communities and/or schools almost anywhere in the country today and ask to see evidence of improved adult/child joint book reading practices, it is unlikely that staff would be able to provide this information in a systematic manner (DeBruin-Parecki, Paris, & Siedenberg, 1996). Standardized tests, which are most commonly used to provide information on the progress of participants, are not useful for this purpose, as they are individual in nature and unable to demonstrate any form of interactive growth. They do not clearly demonstrate how the adult has learned to provide more positive and interesting reading experiences for his or her children, nor do they measure how young children initiate or respond to conversation during joint book reading—clear goals of the majority of Family Literacy programs and their participating families (Brooks, 1998; Morrow, 1988, 1990).

In order to provide a means of evaluating interactive reading practices and to assist programs and families in measuring the progress being made as adults and children learn to read together, the author designed a tool, the Adult/Child Interactive Reading Inventory (ACIRI). This instrument offers teachers and participants information about interactive literacy behaviors that promote positive outcomes. The reasons why specific interactive reading behaviors, particularly those included on the ACIRI, are important dur-

ing adult/child joint book reading behaviors will be detailed in the next section.

Research

Why Is Joint Storybook Reading Important?

> Children are not born knowing how to connect their knowledge and experience in "literate" ways to printed and pictorial texts. Rather, they must learn strategies for understanding texts just as they must learn the ways of eating and talking that are appropriate to their cultures or social groups (Cochran-Smith, 1986, p. 36).

Over the past decade, popular media and academic research have both drawn attention to the benefits of reading to young children. Most recently, the International Reading Association and the National Association for the Education of Young Children have supported this idea by issuing a joint position statement on learning to read and write (IRA/NAEYC, 1998). The release of the National Research Council Report, *Preventing Reading Difficulties in Young Children*, also confirms the widespread support of this notion (Snow, Burns, & Griffin, 1998).

Politicians, volunteer organizations, government programs, librarians, and teachers all implore adults to make reading with their children a part of their everyday lives. Their underlying reason for promoting this activity is a desire to further children's chances for achieving success as they progress through school. Encouraging family members and friends to read with children answers not only a social and emotional need, but an important instructional one as well.

For years, researchers have been stating that interactive book reading can enhance language development (Durkin, 1966, 1972; Teale, 1978, 1981) and help children learn that printed words, while different from oral language, represent sounds and carry meaning (Clay, 1979). Numerous studies have shown that early readers come from homes where adults read to them regularly and where books and reading materials are readily available (Bus, van IJzendoorn, & Pellegrini, 1995; Clark, 1976, 1984; Lancy, Draper, & Boyce, 1989; Morrow, 1983; Teale, 1978). Questions remain, however, about the specific characteristics of these interactive sessions that lead to children's success in reading. It is not only the frequency with which a parent reads to a child that affects the child's success; what that parent does during shared reading and how he or she mediates the shared text is important as well.

There appear to be specific joint storybook reading behaviors and practices that enhance children's reading skills and comprehension. It is primarily through interactive dialogue that children gain comprehension skills, increase their understandings of literacy conventions, and are encouraged to enjoy reading. Book-reading episodes provide an opportunity for adults and

children to co-construct knowledge in a social setting and negotiate meanings together. Adults can collaborate with children and adjust the amount of scaffolding they provide as children gain understanding and complete tasks. This process requires that the adult be able to judge the child's current level of knowledge and know how to "push" the child a bit beyond that. Vygotsky (1978) calls this *working within the child's zone of proximal development*. His theory claims that intellectual skills arise from social interactions that occur during practical activities. In the context of literacy learning, Teale (1981) interprets this to mean that, over time, children can internalize co-constructed parent-supported behaviors and strategies used during joint book reading sessions. This, Teale argues, can eventually lead to independent functioning and self-regulated reading behaviors.

Morrow (1990) identifies nine interactive reading behaviors that researchers have investigated. These are questioning, scaffolding dialogue and responses, offering praise or positive reinforcement, giving or extending information, clarifying information, restating information, directing discussion, sharing personal reactions, and relating concepts to life experiences. In addition to these behaviors, it is important for adults to promote positive attitudes toward reading through enthusiasm, animation, and modeling (Hiebert, 1981; Holdaway, 1979). Reading sessions also provide a natural context for adults to assist children in forming concepts about books, print, and reading, such as directionality and book-handling (Clay, 1979).

A number of studies have indicated that these types of behaviors are instrumental in children's development of successful reading habits. These studies have been correlational, theoretical, ethnographic, and experimental in nature. Many of them dwell on the differences between various cultures and socioeconomic status levels in regard to the frequency and quality of interactive reading sessions between adults and children. This work is discussed below.

Adult/Child Interactive Reading Behaviors During Storybook Reading Sessions

When conversation takes place around joint storybook reading, adults and young children have the opportunity to construct meaning together. Research suggests, however, that such conversation must incorporate the behaviors discussed in the last section if it is to impact children's reading development.

Ninio and Bruner (1978) studied a middle-class mother and her young son over a period of ten months. They observed her reading picture books to him, and found a distinct pattern emerging during these readings. The mother and child took part in a routine interactive dialogue in which the child labeled items in the book's pictures. This dialogue was identified as having four steps: attention-getting dialogue, questions, labeling, and feedback. This case study showed that there is routine give and take between mother and child as they speak to one another regarding the book's contents. As the child grows, the mother can judge when to provide assistance and when the child's understanding is sufficient to allow the child to participate independently. Her feedback becomes a scaffold, helping the child to

learn eventually to do things such as questioning and labeling autonomously. Ninio and Bruner (1978) provided an early glimpse of the kinds of interactions that occur during interactive reading sessions with very young children and the positive outcomes that can result.

Cochran-Smith (1984, 1986) studied joint storybook readings between adults and preschool children. Observations and interviews were conducted, and audiotapes of storyreading sessions were obtained over a period of eighteen months. The study's participants were middle class and identified themselves as school-oriented, claiming that they believed in the importance of strong literacy skills for lifetime academic and intellectual success. Cochran-Smith (1986) found that there were obvious turn-taking patterns in which adults and children exchanged questions and answers that enriched the child's understanding of the text and the conventions of print and language. She also discovered that the conversations that promoted the most interest and response from both child and adult were those that made connections between real life and text. Children appeared to be eager to accommodate new information into their existing schemas. Cochran-Smith (1986) states, "The task of becoming literate and learning to make sense of printed and pictorial texts requires more than simply breaking the sound-symbol code" (p. 39). Equally important is the negotiation of meaning and understanding of literacy conventions that can occur through interactive reading sessions.

Flood (1977) investigated the relationship between a parent's style of reading to young children and the child's performance on prereading related tasks. The study involved tape-recording 36 three-and-a-half to four-and-a-half year old children and their parents or guardians reading together at home. The sample was balanced for ethnicity and SES. The recordings were analyzed to determine which characteristics predict reading success for children. Flood found that the best predictors of success on the tasks were: (a) the number of questions answered by the child, (b) the number of words spoken by the child, (c) the number of warm-up preparatory questions asked by the parent, (d) the number of questions asked by the child, (e) the existence of postevaluative questions posed by the parent, and (f) the amount of positive reinforcement by the adults. As a result of this, Flood (1977) claimed that interactive reading between adults and children can be viewed as a cyclical entity requiring the following four steps to produce effective results:

1. Children profit from preparation for reading warm-up questions,
2. Children need to be part of the process (e.g., asking questions, relating content to present and past experiences),
3. Parents need to reinforce children's efforts, and
4. Postevaluative questions need to be asked, for they complete the cycle and help children learn to assess, evaluate, and integrate.

Roser and Martinez (1985) analyzed the story language of four parents reading to their three- to four-year-old children in their homes in an attempt to gain insight about the adult's role during joint storybook reading. They concluded that an adult tends to serve as (a) a co-responder, describing, reviewing, sharing personal reactions, and inviting child responses; (b) an

informer-monitor, relaying information about literacy conventions, explaining parts of the story, and assessing and monitoring the child's understanding; and (c) a director, introducing the story, announcing the conclusion, and managing the discussion. Each of these roles provided opportunities for modeling and scaffolding. Roser and Martinez found that the more children participate in these types of discussions, the more likely they are to take on some of these adult roles. The authors state, "The value of an adult partner who shares books and who thinks aloud in response to literature cannot be ignored" (p. 489).

Whitehurst et al. (1988) assessed a one-month home-based intervention which was designed to promote optimal interactive reading between parents and children. The experimental group was asked to increase their use of open-ended questions, respond more frequently to children's questions, and expand on children's questions. They were also asked to decrease straight reading of text. The control group was told to read as they usually did. The children were 21 to 35 months of age, and all were from two parent middle-class homes. Whitehurst et al. found that children in the experimental group did significantly better on posttests of expressive language ability. Follow-up nine months later showed this increase held, although the significance of the difference was not as great. The authors do not claim that the intervention alone caused this increase, as children develop language for a variety of reasons under a variety of circumstances. They only offer this intervention as one variable that may enhance children's language development.

Kindergarten and first-grade children and their parents in an ethnically mixed, middle-/working-class community participated in a study by Lancy and Draper (1988, cited in Lancy, Draper, & Boyce, 1989) which examined the range of interaction patterns occurring during joint storybook reading. Through the analysis of video- and audiotapes, the researchers classified parents as either *expansionist* or *reductionist*. The expansionists emphasized partnership and responded to children's inquiries, asked questions, physically shared the book with their children, and generally involved them in the process of reading. The reductionists saw reading time as a test, and forced children to perform and concentrate on decoding and error correction. Lancy and Draper found that children with expansionist parents enjoyed reading and were anxious to learn. The reductionists' children tended to try to get through books as quickly as possible and did not find reading a pleasurable experience. Pointing out that children who enjoy books and reading are more likely to become better readers, the researchers concluded that parents can assist them in developing this attitude by making joint reading an enjoyable learning experience.

Summary of Joint Storybook Reading Behaviors

The studies presented above support the notion that certain types of behaviors practiced during joint storybook reading time between adults and children promote children's engagement in reading, and help them better comprehend the story and understand the conventions of books. It appears that mutual questioning and responding, making stories relevant to the child's life, giving praise and feedback, explaining, physically sharing the book, monitoring a child's understanding, and adjusting mutual dialogue to

acknowledge this understanding are all behaviors that enhance children's literacy skills and comprehension.

Studies of Joint Storybook Reading: A Focus on Cultural, Economic and Environmental Differences

Teale (1978, 1981, 1984) has extensively reviewed the literature on early reading. He acknowledges that students who come from disadvantaged environments with few books in their homes and few opportunities to read with adults often do fine in school. However, he also emphasizes that "the more conducive to learning to read we can make that environment, the more responsible it will be in the long run for enabling children to read and for fostering within children the desire to read" (Teale, 1978, p. 931).

In his own work, Teale has focused primarily on environmental issues and on differences in children's reading ability based on culture and socioeconomic status. Along with Heath (1983, 1986), Ninio (1980), Pellegrini, Perlmutter, Galda, and Brody (1990), Swift (1970), and others, he has looked closely at how these factors may influence children's acquisition of early literacy skills, and how this may effect their future academic achievement. Teale's work is discussed at greater length below.

Anderson, Teale, and Estrada (1980) conducted a study designed to characterize the literacy experiences of two- to four-year-old children from low-income black, Mexican-American, and Anglo families and communities. They focused on literacy events that occur in everyday family and community settings. This was an intensive study that looked systematically at the social organization of literacy in diverse homes and attempted to gain insight into the relationship between this social organization and the types of literacy skills these children develop. Interviews, observations, and self-reports were used. Initially, the researchers found that Anglo adults spent more time reading with their children, as well as reading by themselves. Teale (1986), however, expounded upon the results of this study at its completion. He stated that his examination of the literacy practices of diverse low-income families suggested that some low-income children, regardless of background, do have considerable experience with literacy before entering school and are able to achieve successfully. This experience may take forms other than joint book reading. He claimed that the study clearly demonstrates that it is not demographic characteristics that determine later school success; rather, it is the way a parent rears a child and the types of literacy experiences provided to that child that make the difference.

Teale and his colleagues made an interesting discovery while conducting this study. They found that, in general, there was little storybook reading among the families studied. Of the 24 children studied, only 3 were read to on a regular basis. These 3 children (2 Anglo, 1 Mexican-American) were judged by observers and interviewers to be the most highly developed of the 24 children studied in terms of emergent literacy skills. Teale stated that, although storybook reading may not be necessary for becoming literate, it does have an extremely facilitative effect on children's acquisition of emergent literacy skills.

Within her larger ethnographic study of language use and communication in the white working-class community of Roadville, the black working-class farm community of Trackton, and the mainstream community of Maintown, Heath (1983, 1986) looked specifically at storybook reading. She discovered that Trackton parents did not read to their children, while Roadville and Maintown parents did. Maintown parents mediated the text for their children, taught them to label things and pay attention to specific aspects of the text, demonstrated how to link old and new knowledge, and to give "what" explanations (i.e., known-answer questions). Children learned to answer decontextualized knowledge questions and become cooperative partners with adults in negotiating meaning from books. Roadville children were taught alphabet letters, words, and labeling, but little generalization to other contexts. They were expected to listen and not interrupt, and to focus on the truth in stories. Use of imagination was not considered desirable. Direct instruction was practiced as books were read to children; children were rarely asked to relate the book content to other areas. When Maintown children entered school, they usually did quite well, and this continued throughout elementary school. Roadville children appeared to do well when they first entered school, because they understood adherence to rules and norms of participation. It was when they entered the third or fourth grade and were expected to think more creatively and conceptually that they began to fail. Trackton children came to school not understanding the need for "what" explanations, and therefore rarely participated. They had a hard time adjusting to the social/interactional patterns of school learning, and frequently did not meet with academic success. Heath's work, however, does demonstrate that it is not joint book reading itself but what goes on during the reading time that may make a strong difference in children's literacy development.

Ninio (1980) studied vocabulary acquisition in the context of joint storybook reading. She looked at 20 middle-class and 20 lower-class dyads in Israel. The children were between 17 and 22 months old. She found that lower-class mothers adequately taught to their children's current level of development, but were not sensitive to their future needs or changes in their capabilities. Middle-class mothers elicited more words and information from their children without directly providing them with either. They scaffolded their children's current knowledge, leading them to greater gains. Over time, middle-class children developed a larger productive vocabulary, whereas lower-class children developed a larger imitative one.

Swift (1970) designed a project to assess the effectiveness of a training program which was designed to enhance the storytelling and communication skills of low-income mothers with limited educational backgrounds. Swift focused on aspects of maternal language and communication that have been shown to be related to a child's future success in school. Mothers of three- to five-year-old children in a Get Set preschool program were taught to use children's books to increase interactive communication with their children. The elaboration of thoughts was emphasized, as was sharing the books themselves, relating the books to their children's lives and experiences, and retelling stories. Mothers were also shown techniques for observing their child's reactions and responding to them. As a result of this intervention, mothers developed the ability to tell stories and interact with their children around books and began to better understand their role as teacher to their children. Children also became more attentive and responsive. Swift concluded that if mothers who are known to lack these skills could be taught to use pre-

school books as vehicles for communicating with their children, then their own language and literacy development would be positively affected, as would the literacy development of their children.

Pellegrini et al. (1990) examined joint book reading between black Head Start mothers and their children. Their study took place in the participant's homes and explored the effects of text genre and format on mother's teaching strategies while interacting with their children around reading tasks. Pellegrini et al. also considered the effectiveness of the mothers' teaching strategies in eliciting participation from their children. Expository texts tended to elicit more joint participation and teaching opportunities. Narrative text was most often read through with minimal effort to involve children. In regard to expository text, the authors found that the teaching strategies used by low-income black mothers with their preschool children are similar to those used by middle-class mothers. The researchers could not analyze narrative text due to the paucity of mother/child interaction. The authors claim, unlike other researchers who have tried to study the issue, that they were able to reach this positive conclusion by controlling for self-selection of books and by looking within a culture rather than between cultures. They also did more repeated observations—ten of each dyad—and studied older children (ages three-and-a-half to five years).

Leseman and deJong (1998) worked with a multiethnic, partly bilingual, low-income population of adults and their four-year-old children in the Netherlands. They followed their subjects for four years using a number of measures that focused on the results of home literacy practices. These measures included the coding of adult/child videotaped reading sessions. Their findings indicate that the effects of background factors such as ethnicity, socioeconomic status, and participating adults' literacy practices on language development and reading achievement are mediated by home literacy practices, home language, and early vocabulary. In addition, even after controlling for the effects of early vocabulary and predominant home language, the effects of home literacy practices, particularly opportunity, instructional quality, and level of cooperation, remained statistically significant.

Finally, Elliot and Hewison (1994) studied families from four different sociocultural backgrounds, investigating differences in helping strategies employed during joint book reading with children. Middle-class families tended to emphasize story content and meaning, as opposed to the mere exercise of acquiring reading skills. Parents kept the flow of reading going, ignoring minor errors. An abundance of books of many types were available to the children in these homes. Reading together was seen as a pleasant activity. Working-class and Asian families had little exposure to books and few of their own. Most of the books they had contact with were very elementary and scholastic and lacked interesting story lines. There were some language problems in the Asian households due to unfamiliarity with English, and reading was most often seen as an exercise, rather than an occasion to co-construct meaning. The emphasis was on accuracy, not comprehension. Children from middle-class homes tended to be better prepared for school activities and to achieve greater success. The authors suggest interventions that may assist those in lower socioeconomic situations in improving their joint book-reading skills. These interventions focus on explaining the importance of using books that are interesting to the child, teaching strategies which increase the flow of reading, and explaining the need to

draw attention to context and promote discussion of the story and the pictures, rather than focus on the correct reading of each individual word. Their conclusion is that a helping style that emphasizes enhancing comprehension and interest appears to best promote increased literacy skills in children.

Summary of How Diversity Affects Joint Storybook Reading

Becoming literate can mean different things in different cultures. The purpose of recounting these studies has not been to claim that specific groups are illiterate or that parents do not encourage literacy in a variety of ways within the home and community, but merely to point out that certain literacy practices that occur within joint book reading episodes appear to promote the type of skills children need to master in order to ensure success in school. The types of interactive behaviors discussed earlier can be taught to parents within different cultural contexts, and these parents can be encouraged to practice them during storybook reading with their children. In addition to learning the actual behaviors, parents must also gain a general understanding of what children are capable of doing at different developmental levels.

Paradigms for Measuring Adult/Child Behaviors During Joint Reading Sessions

Guinagh and Jester (1972) developed the Parent as Reader Scale (PARS) in order to assess the quality of mother/child interaction during reading and determine the quality of the mother's teaching ability. The focus was on mothers' behavior. The items on the scale were selected to reflect those dimensions of the mother/child interaction that were assumed to be related to positive growth in the child. There are 10 different rating scales assessed by scores ranging from one to five. The highest score possible is a 50. The PARS items cover introduction to the book, language use, encouragement of child participation, elaboration, feedback, identification, and affect. The authors of this instrument used it with low SES populations to determine which important reading and teaching behaviors parents may not currently use when reading with their children. They promote this tool as a springboard for training parents to read more effectively during storybook time.

Resnick et al. (1987) developed an evaluation tool for observing behaviors during maternal reading to infants. Their instrument comprises four categories: mother's body management, management of book, language proficiency, and attention to affect. There are a total of 56 separate behaviors listed under these categories. Although the authors were familiar with theory on early reading, they chose to arrive at these behaviors by observing what occurred during mother-infant reading sessions as seen on videotape. They felt that they wanted to be open to all aspects of sharing behavior, and did not want to narrow their instrument based on others findings. In the end, the instrument did contain many of the well-researched behaviors such as labeling, praise, description, affect, identification, making text relevant to life, and inviting participation. However, there was also a stronger emphasis

on physical behaviors such as holding the child close, removing distracters, and sharing the book. When scoring mothers, both positive and negative behaviors are considered.

In their initial study, Resnick et al. found that mothers became more involved as their children grew older and were able to express their understanding and participate more. Resnick et al. believe that use of their instrument is helpful in identifying those adults who may benefit most from some type of training in positive reading behaviors. By helping parents practice reading behaviors that have been shown to enhance the reading readiness of children when they enter school, children who might have previously met with frustration may now find success. Most notably, Edwards (1989, 1991, 1995), has used the Resnick et al. observation instrument to assist her in determining the types of behaviors parents are taught in her training program, Parents as Partners in Reading.

DeBaryshe and Binder (1994) created the Parent Reading Belief Inventory to explore why parents employ certain book-reading behaviors during joint storybook reading times with preschool children. The inventory is divided into seven subscales: affect, participation, resources, efficacy, knowledge, environment, and reading instruction. There are 55 items, which are answered on a Likert scale of one to four. A high score indicates beliefs that parents are important teachers; that children should participate in reading sessions; that goals of reading are enjoyment, knowledge, and language growth as opposed to straight instruction; that limited time and lack of resources are not obstacles to joint reading; and that language is developed by environmental stimulation. In their initial study, parents' scores on the belief inventory were correlated with scores on measures of actual reading behavior in the home. These scores were highly correlated, suggesting that parent's beliefs about reading do indeed effect their practice. Since parental beliefs are closely related to their actions, those who want to encourage parents to assist their children in developing literacy skills must take these beliefs into consideration as they approach them with advice and the intent to intervene. An inventory such as this could be a useful tool within teaching programs that focus on instructing parents in specific interactive reading behaviors.

Summary of Joint Bookreading Measures

There have been few attempts to construct instruments that assess the interactive reading behaviors of parents and their preschool children, particularly in their home environment. Parent belief scales that address the value of preschool storybook reading and the use of specific behaviors to promote literacy development are even rarer. Some studies have examined interactive behaviors between teachers and students in schools using devised rating scales (Klesius & Griffith, 1996; Morrow, 1988, 1990), but these scales have not been promoted as evaluation tools for parents and children. The few instruments presented here focus exclusively on rating the adult's behavior, not on the corresponding behaviors of the child. If the quality of interaction between adult and child promotes literacy development, then it is important to evaluate the behaviors of both participants in order to determine instructional strategies that may assist them both. Understanding parents' beliefs

about reading practices and the effect of these practices on their child's literacy development may also prove helpful when designing future instruction based on observations of reading dyads.

Present Study

The purpose of this study was to design an observational interactive reading instrument that would not be patronizing, insulting, or threatening to participants and that would help Even Start teachers assess joint storybook reading and teach parents effective techniques for making reading more interesting and useful to their child. The ACIRI was used in this study to observe adult/child dyads under natural conditions during joint storybook reading time in participants' homes. This instrument consists of categories and behaviors selected for inclusion based on the research previously discussed. The inventory was primarily created to provide teachers working with parent-child dyads a means of evaluating the dyads, helping them decide where to focus their future teaching to best help them. The ACIRI was also intended to enable the parents and guardians to learn where they could improve in order to assist their child in developing the kinds of literacy skills that appear to be most helpful when entering school. A secondary purpose of the ACIRI is to provide data for program evaluation purposes.

Method

General description of site.

Even Start is a federal demonstration project which provides both supportive and educational services to parents and children. Participants must have a child ranging in age from newborn to seven years old to participate. This particular program has both at-home components and center-based components. Participants spend the majority of the first two years receiving at-home visits from teachers, and the following two years spending more time at the center in various capacities. The data for this study were collected in participants' homes.

The site of this work was an Even Start program in the Midwest in an area considered to be a major automotive manufacturing center. This area has experienced a 40% decline in employment over the last decade. The two school districts which feed into the program cover 32 square miles and include parts of five cities and two townships. This area contains the oldest housing in the county and has shown dramatic increases in the number of poor and at-risk families.

There are approximately 45,000 people living in the area served, and each year about 90 of the highest risk families in the area are able to enter the program. The majority of families served are Caucasian. African-Americans, Hispanics, Asian-Americans, and Native Americans combined make up 20-25% of the participants. The percentage of children in poverty ranges from 31-47%. Unemployment rates hover at approximately 10%. Five of the six local

high schools have a drop-out rate of 9.9%—the highest among the 21 county school districts. Five of the six local elementary schools qualify for Title I, and 43% of students are enrolled in Title I. The free or reduced lunch rates are approximately 60%.

Staff. The complete teaching and administrative staff of the program consists of three administrators (an Adult Literacy Coordinator, an Early Childhood Coordinator, and a Coordinator of Community Education/Federal Programs, who oversees all aspects of the program), five Family Support Visitors (home-visiting teachers), and two Family Service Workers (center support staff). They are all Caucasian women ranging in age from 37 to 54 years. Their educational levels range from bachelor's degrees to master's degrees and some doctoral level work. All degrees are in either education or social work, and all Family Support Visitors are certified teachers with early childhood endorsements. All Family Support Visitors and Family Service Workers have been with the program a minimum of three years. All administrators have been with the program since its inception five years ago. All of the staff have children of their own.

Participants. Data are available for 29 mothers and their children. The ages of the adults ranged from 19 to 49 years of age (M = 27.21). There were 17 male and 12 female children ranging in age from two to seven years (M = 3.62). Of the participating dyads, 13.3% were African-American, 6.1% were Hispanic, 2.6% were Native American, 3.6 % were of mixed ethnic heritage, and 74.4% were Caucasian.

Design.

This study was designed to determine (a) whether the ACIRI was sensitive to growth and change over time, and (b) whether teachers found the ACIRI useful as a measurement of adult and child reading behavior and progress. A fall measure was taken at the beginning of the program year in September and a spring measure was collected at the end of the program year in May to offer insight about growth over time and usefulness of the instrument. Time, developmental changes, and varied curricula were expected to account for changes, and it was hoped that teacher comments during interviews and through questionnaires would shed light on the instrument's usefulness.

Because the author had no control over the means of literacy instruction and the population was not large or stable enough to attempt to randomize or set up control groups, this study was not designed to be a controlled experiment. Between fall and spring, individual teacher instruction varied and was based on the literacy objectives of the program curriculum. For adults, these objectives included learning to provide relevant, functional, and meaningful language experiences for children; to focus on holistic approaches to communication skills; and to use printed materials as a source of learning and shared enjoyment. For children, the objectives were learning to understand speech and speaking, to connect print to meaning, and to gain knowledge about books and reading. Home visiting teachers assisted families in reaching these objectives in varied ways based on individual and family skill levels and needs.

Helping adults and children gain the skills that have been shown to promote academic success for children as they enter school was and is the overarching goal of this Even Start program. Many of the skills that have been demonstrated to be important for reaching this goal are those measured by the

twelve items on the ACIRI. The ACIRI promotes improvement of interactive reading skills by providing an initial starting point for assessment and a guide to understanding where instructional emphasis should be placed. The ACIRI also allows for tracking the growth of joint reading behaviors over time.

Instrument. The ACIRI is an observational tool designed to assess the joint reading behaviors of an adult and child. It contains areas for both quantitative scoring and qualitative comments. For both the adult and the child portions, the observed interactive behavior is defined by three categories: (a) enhancing attention to text, (b) promoting interactive reading and supporting comprehension, and (c) using literacy strategies. Each component assesses 4 interactive behaviors, for a total evaluation of 12 specific literacy behaviors. These 12 behaviors are directly linked to the literature on promoting good reading practice. A copy of the ACIRI is attached in the Appendix. The actual inventory is on a legal size form.

Procedure. This administration of the ACIRI takes 15 to 30 minutes. The length of time spent depends on the complexity of the book being read and the number of observed behaviors the visitor wishes to discuss with the adult following the observation. The procedure for using the ACIRI is as follows:

1. The adult, child, and teacher select an age-appropriate book. Wordless picture books are available, permitting adults with low conventional literacy skills to participate.

2. The adult and child read together while being observed by their visiting teacher. The visiting teacher notes adult and child behaviors on the inventory and writes comments as the reading progresses.

3. When the reading is complete, the teacher studies her comments and then discusses them with the adult in a nonthreatening, helpful manner, using the inventory as a teaching tool, thus linking teaching directly to assessment.

4. After leaving the home, the teacher reads over her comments, and numerically scores the behaviors, entering the scores in the appropriate columns. The numerical scores are used for program evaluation purposes only and are not meant to be shared with participants. The goal in using the ACIRI with families is to be encouraging, friendly, and nonthreatening. Numerical scores can only serve to associate the ACIRI with a testing rather than a teaching situation, and this creates discomfort in the majority of participants.

Scoring. The ACIRI is quantitatively scored for program evaluation purposes. It also contains qualitative data used to support numerical scores and provide teachers with a detailed picture of what occurred during the reading interaction. The numerical scoring is based on a 0–3 scale as follows: Zero indicates "no evidence of the behavior"; one indicates that the behavior occurs "infrequently"; two indicates that the behavior occurs "some of the time"; and three indicates that the behavior occurs "most of the time." As the adult and child read together, the teacher makes observational notes near each listed behavior as she sees it occur. Some teachers choose to use a combination of written comments and check marks that indicate the number of times a behavior occurs, such as the number of times a parent asks the child

a question. The combination of these data assist the teacher in quantitatively scoring the inventory when the reading ends. Parent and child reading behaviors are separately indicated by scores on each individual item, mean scores on the three broad categories, and by the total mean score of the inventory.

Results

Interactivity.

To determine the interactive nature of the ACIRI, a series of correlations were done on premeasure data. All of the correlations of the ACIRI adult part were significantly correlated ($p < .01$) with the corresponding items of the ACIRI child part ($p < .01$) at premeasure (see Tables 1, 2, and 3 below). All of

Table 1: Correlations Between Child and Adult Scores for *Enhancing Attention to Text* Items on the ACIRI*

	Parent Items				
Child Items	Q1	Q2	Q3	Q4	Mean
Q1	.77	—	—	—	—
Q2	—	.80	—	—	—
Q3	—	—	.97	—	—
Q4	—	—	—	.82	—
Total Mean	—	—	—	—	.90

* Note: N = 39 All correlations signifcant at p < .01.

the ACIRI's adult and child categories were also found to be significantly correlated ($p < .01$) at pretest (Enhancing Attention to Text, $r = .90$, Promoting Interactive Reading and Supporting Comprehension, $r = .95$, and Using Literacy Strategies, $r = .76$). In addition, the total mean scores of the adult and child ACIRI were also found to be significantly correlated ($p < .01, r = .93$).

Table 2: Correlations Between Child and Adult Scores for *Promoting Interactive Reading and Supporting Comprehension* Items on the ACIRI*

	Parent Items				
Child Items	Q1	Q2	Q3	Q4	Mean
Q1	.95	—	—	—	—
Q2	—	.87	—	—	—
Q3	—	—	.96	—	—
Q4	—	—	—	.82	—
Total Mean	—	—	—	—	.95

* Note: N = 39 All correlations signifcant at p < .01.

In summary, the correlations across individual items, categories, and total ACIRI scores were all significantly correlated. It has been shown that there is covariation among adults and children, indicating that the behaviors may be interactive both in their definitions and observations.

Table 3: Correlations Between Child and Adult Scores for *Using Literacy Strategies* Items on the ACIRI*

Child Items	Parent Items				
	Q1	Q2	Q3	Q4	Mean
Q1	.86	—	—	—	—
Q2	—	.74	—	—	—
Q3	—	—	.85	—	—
Q4	—	—	—	.64	—
Total Mean	—	—	—	—	.76

* Note: N = 38 All correlations significant at $p < .01$.

Reliability.

Teachers participated in a number of workshops designed to instruct them in the use and purposes of the inventory. The scoring system was carefully defined, and the origins of all the behaviors were discussed and explained. In addition, supporting literature was supplied. All teachers present were familiar with the literacy concepts represented in the ACIRI items. After a number of these training sessions, the ACIRI was piloted and examined for interrater reliability.

Interrater reliability was calculated among eight raters from a group consisting of program teachers, administrators, and community service workers. They watched three sets of dyads on videotape, each reading two books matched for difficulty and vocabulary level. Frequency counts of raters' scores across individual items were done for each dyad and each book to find how many of the raters scored each item the same. This provided the means of showing interrater agreement on each book for each dyad. A percentage of agreement was then calculated for each dyad. The percentage of agreement for all dyads and all books was then averaged, giving the total agreement figure. Having the same dyad read two different books also allowed for examination of the effect of varied materials on the scoring procedure. The "materials" reliability (two books by the same author read by the same dyad) was calculated with frequency counts of raters' scores on individual ACIRI items of the same dyad over two episodes reading matched books. The percentage of agreement across each matched pair was then figured. These three total percentages were then averaged, resulting in the total agreement figure.

The examination of the ACIRI for interrater reliability resulted in 97% agreement among eight raters across six observed reading dyads. When "materials" reliability was calculated for dyads who read two different books matched for author, vocabulary, and difficulty, raters agreed 99% of the time on scores for the pairs.

Criterion validity.

Criterion validity reflects both construct and concurrent validity. In the case of the ACIRI, construct validity appears to be high, while concurrent validity cannot be determined.

Construct validity. Construct validity of an instrument is determined by examining the items on that instrument and determining if they are a fair and representative sample of the general domain which the instrument was designed to measure (AERA, APA, and NCME, 1985). This is most often ascer-

tained through reference to related research and theories. The behaviors (items) on the ACIRI are based on research and theory in the field of joint storybook reading, as reviewed in the introduction of this paper. The ACIRI does contain and measure those interactive reading behaviors that seem important to the development of literacy skills in children and the transfer of those skills to positive school outcomes. The author has recently consulted the joint position statement on learning to read and write from the International Reading Association and the National Association for the Education of Young Children (IRA/NAEYC, 1998) and the National Research Council Report, *Preventing Reading Difficulties in Young Children* (Snow, Burns, & Griffin, 1998), and found additional support in these documents.

Concurrent validity. Concurrent validity of an assessment instrument is ascertained when scores on the newly designed instrument are compared with test scores on an already established instrument designed to measure the same constructs (AERA, APA, and NCME, 1985). It has not been possible to establish concurrent validity due to the unavailability at this time of any other instrument designed to measure interactive reading behaviors during storybook reading times. As noted previously, there are some instruments that examine only adult behavior during interactive reading sessions with young children. However, until actual reading development of the child and instructional effectiveness of the parent can be measured jointly, it is problematic to verify concurrent validity.

Consequential validity.

Consequential validity occurs when a designed instrument has positive consequences for those who use it. In the case of the ACIRI this would mean that the implementation, concepts, and content of the ACIRI promote future improved interactive reading and learning experiences over time. Consequential validity has tremendous implications for newly developed authentic assessments such as the ACIRI. "High priority needs to be given to the collection of evidence about the intended and unintended effects of assessments on the ways teachers and students spend their time and think about the goals of education. It cannot just be assumed that a more 'authentic' assessment will result in classroom activities that are more conducive to learning" (Linn, Baker, & Dunbar, 1991, p. 17).

To provide evidence of consequential validity, the author offers the following excerpts about administration, purpose, and usefulness of the ACIRI taken from 1997–98 interviews done with the teachers who piloted and continue to use this instrument. These comments address the positive implications of the ACIRI for both teaching and learning.

> Teacher 1: After it's been done, I'll talk about some of the things like, "You did really well on this. One thing that I noticed you weren't doing that you might want to think about doing is. . .And this is why this is important when you read to your children. . . ." It really helps them stay focused on the story, and it makes them really think about more than just the words. They have to think about things they are doing while they read, and that's a good way to develop skills.
>
> Teacher 2: The Adult/Child Interactive Reading Inventory is useful. A lot of the parents really enjoyed reading to their children for me, and then afterwards, I told them, "Gee, you do this really, really well.

...and the only thing I see that you could do that you don't do is..." They were really happy to know those things, and have been using them, as far as I can see, at least trying to utilize some of that information.

Teacher 3: It does help me at the beginning to know what behaviors to help with or to model. It's not difficult to use. I don't have any problem with it. It kind of points out behaviors. Like when I see parents who just read real blatantly and don't try to interact with the story and the child. They're just reading to read and get through. Those kinds of things I look for. Those are the kinds of things I model to start with. I don't take this and say, "You just don't do very..." No, we don't do that. It's a key to me to know next week when I'm doing it to really exaggerate those behaviors. In that respect, it's helpful.

Teacher 4: I think the interactive reading inventory is helpful for initial diagnosis of joint reading behaviors. It's really helpful because I can say to a mom, "Do you notice that when you do this that this happens? Maybe if you try something else.... Try this and I don't think that will happen anymore." It really is good to have both of them there together. It's valuable as a teaching tool because I can always say to the mom, "You did really well. There are only one or two places where I think..." It gives me a jumping off place. This definitely provides valuable information to me, and I think to the family members and administrators.

Teacher 5: I don't have a problem using this. I don't think it's difficult to use. I feel that it's interesting to see, to watch the interaction between parent and child. As far as a teaching tool, there's usually a couple things I'll address, a couple suggestions I'll make after watching them read... using prediction, relating it to their own experiences. I'll talk about that a little bit .. helpful things for the parent. If there's a really poor relationship between the two, I'll say in a nice way, "It's okay for him to want to turn the pages. You need to go a little faster, you don't have to read every single word. That's okay." The difficulty sometimes is the parents are uncomfortable. We work to make that better. Other than that, the children love it. They love to be read to by their parents.

It appears from these comments and others offered in more casual instances that teachers have found the ACIRI useful and feel it is accomplishing its purposes of being a teaching, learning and evaluation instrument which has positive consequences for adults, children, and teachers. Adults are able to discover the joint storybook reading skills they need to improve or learn and to get focused skill instruction from teachers. Children benefit by participating in interactive reading sessions, and ultimately profit when their parent or guardian learns how to encourage the development of important literacy skills. The teachers gain information that allows them to design lessons that concentrate more closely on the skills parents and guardians need to improve. This allows them to note strengths and provide recognition, as opposed to teaching the same curriculum to everyone, risking participant boredom and lack of motivation.

Analysis

Due to the small sample size of 29, paired *t*-tests were established as the best means of analyzing the data. The mean scores on each of the 12 items, three categories, and total test scores for 29 pairs of adults and children were compared at the beginning of the program year in September (premeasure) and at the end of the program year in May (postmeasure). Although the instrument was piloted in 1996-97, it was decided to present the data from the first year of implementation in 1997-98, because teachers were by then more familiar and comfortable with the administration and scoring of the instrument, and several minor but necessary modifications to physical layout and behaviors were made based on information gathered during the pilot year. In addition, it is not possible to aggregate the data over the two years due to instability of the population. Some families continue for multiple years, but many others drop out and new ones join.

The results of the data analysis are first presented on the adult section of the ACIRI, followed by those on the child section. Again, the sample size used for analysis each year was quite small, and consequently, the significance level may not have been reached in many cases. Because of the number of *t*-tests done, a conservative level of significance was used ($p = .01$). A more typical significance level of $p = .05$ is also reported, although with multiple *t*-tests, it is not considered to be as reliable.

Did adults change their reading behaviors over time?

The total adult mean score of the Adult/Child Interactive Reading Inventory at postmeasure ($M = 1.69$) was higher ($t[28] = 1.99, p < .01$) than that in the premeasure ($M = 1.43$), showing a significant difference. The mean scores of all three categories at postmeasure were higher than those at premeasure (see Table 4), but only the difference between pre- ($M = 2.14$) and postmeasure ($M = 2.41$) in the category 'Enhancing Attention to Text' was significant ($t[28] = -2.41, p < .008$). Neither 'Promoting Interactive Reading' nor 'Supporting Comprehension' showed a significant pre-post difference. The mean scores of all 12 behaviors improved at postmeasure (see Table 4), but only three of the specific behaviors revealed differences at or near conventional levels of significance. One of the behaviors—'Attempts to promote and maintain physical proximity'—under the category 'Enhancing Attention to Text' showed significant ($t[28] = 1.00$) growth ($M_{pre} = 2.76, M_{post} = 2.97$). Within this same category, 'Gives child opportunity to hold book and turn pages' approached a significant ($t[28] = -1.57, p = .061$) difference from pre- ($M = .38$) to postmeasure ($M = .90$). Another behavior, 'Asks child to recall information from the story' under 'Using Literacy Strategies' indicated a significant ($t[28] = -2.73, p < .05$) pre-post difference ($M_{pre} = .17, M_{post} = .69$).

In addition to scoring adults on the ACIRI this year, teachers were also asked to determine the comfort level of the adult reader. It was thought that this variable might have an large effect on the adult and child score on the inventory. Comfort level was scored on a scale of 1 to 3, with 1 = low, 2 = moderate, and 3 = high. Teachers spent time with the author and program administrators to be sure there was consensus on what each of these levels represented. A correlational analysis was run to determine if the adults' comfort level was related to their performance on the ACIRI at pre- and postmeasure. Adult comfort level was found to be significantly related to the adults' mean total ACIRI score at both pre- ($r = .64, p < .01$) and postmeasure ($r =$

.39, $p < .05$). It appears that people who were more comfortable performed better at both the pre- and postmeasures.

Table 4: Adult Reading Behaviors:
1997–98 ACIRI Mean Scores and Standard Deviations at Pre- and Postmeasure*

Items	Pretest		Posttest	
	M	SD	M	SD
Enhancing Attention to Text	**2.14†**	**.49**	**2.41†**	**.38**
1. Attempts to promote and maintain physical proximity	2.76	.51	2.97	.19
2. Sustains interest and attention through use of child-adjusted language, positive affect, and reinforcement	2.72	.59	2.83	.47
3. Gives child opportunity to hold book and turn pages	.38	.82	.90	1.26
4. Shares book with child (i.e., displays sense of audience in book handling when reading)	2.69	.85	2.93	.26
Promoting Interactive Reading and Supporting Comprehension	**1.43**	**.94**	**1.68**	**.90**
1. Poses and solicits questions about the book's content	1.97	1.32	2.14	1.19
2. Points to pictures and words to assist child in identification and understanding	1.79	1.26	2.17	1.20
3. Relates book content and child's responses to personal experiences	.90	1.05	.97	1.12
4. Pauses to answer questions child poses	1.07	1.00	1.45	1.21
Using Literacy Strategies	**.72**	**.70**	**.97**	**.93**
1. Identifies visual cues related to story reading (i.e., pictures, repetitive words)	1.17	1.31	1.45	1.33
2. Solicits predictions	.83	1.14	.93	1.25
3. Asks child to recall information from the story	.17‡	.47	.69‡	1.07
4. Elaborates on child's ideas	.72	1.00	.83	1.17
Total Mean	**1.43†**	**.60**	**1.69†**	**.60**

* N = 29
† $p < .01$
‡ $p < .05$

Did children change their reading behaviors over time?

The total child mean score of the ACIRI at postmeasure ($M = 1.70$) was significantly higher ($t[28] = -2.41, p < .01$) than that in the premeasure ($M = 1.43$). The mean scores of all three categories at postmeasure were higher than those at premeasure (see Table 5). There were significant differences between the pre- ($M = 2.18$) and postmeasure ($M = 2.39$) mean in the category 'Enhancing Attention to Text' ($t[28] = -2.51, p < .01$) and between pre- ($M = 1.39$) and postmeasures ($M = 1.68$) in the category 'Promoting Interactive Reading and Supporting Comprehension' ($t[28] = -2.08, p < .05$).

The mean scores of all 12 behaviors improved at postmeasure (see Table 5). Four behaviours exhibited differences between pre- and postmeasure that were statistically significant. Under 'Promoting Interactive Reading and Supporting Comprehension,' the behavior 'Child responds to parent cues or

identifies pictures and works on his/her own' showed a significant difference, (t[28] = -3.02, p < .01) between pre- (M = 1.72) and postmeasure (M = 2.28). Another behavior in the same category, 'Child responds to questions about book,' indicated a significant (t[28] = -2.65, p < .05) pre-post difference (M_{pre} = 1.79, M_{post} = 2.24). A behavior in the 'Enhancing Attention to Text' category, 'Child holds book and turns pages on his/her own when asked,' revealed a significant difference (t[28] = -3.02, p < .05) between pre- (M = .48) and postmeasure (M = 1.07). Finally, 'Child is able to recall information from story' in the 'Using Literacy Strategies' category showed a significant (t[28] = -2.32, p < .05) pre-post difference (M_{pre} = .21, M_{post} = .73).

Table 5: Child Reading Behaviors:
1997–98 ACIRI Mean Scores and Standard Deviations at Pre- and Postmeasure*

Items	Pretest		Posttest	
	M	SD	M	SD
Enhancing Attention to Text	**2.18†**	**.51**	**2.39†**	**.43**
1. Child seeks and maintains physical proximity	2.89	.44	2.96	.19
2. Child pays attention and sustains interest	2.79	.62	2.83	.54
3. Child holds book and turns pages on his/her own when asked	.48‡	.83	1.07‡	1.31
4. Child initiates or responds to book sharing which takes his/her presence into account	2.55	1.06	2.69	.85
Promoting Interactive Reading and Supporting Comprehension	**1.39‡**	**.91**	**1.68‡**	**.91**
1. Child responds to questions about book	1.79‡	1.42	2.24‡	1.06
2. Child responds to parent cues or identifies pictures and words on his/her own	1.72†	1.22	2.28†	1.10
3. Child attempts to relate book content to personal experiences	.90	.98	1.21	1.11
4. Child poses questions about the story and related topics	1.14	1.03	1.48	.91
Using Literacy Strategies	**.73**	**.57**	**1.03**	**1.04**
1. Child responds to parent and/or identifies visual cues related to the story him/herself	1.13	1.27	1.41	1.38
2. Child is able to guess what will happen next based on picture cues	.66	.97	.82	1.17
3. Child is able to recall information from story	.21‡	.42	.73‡	1.16
4. Child spontaneously offers ideas about story	.93	.92	1.17	1.14
Total Mean	**1.43†**	**.55**	**1.70†**	**.66**

* N = 29.
† p < .01.
‡ p < .05.

Discussion

The ACIRI appears to have achieved its original purposes of being sensitive to growth and change over time and being useful to teachers as a measurement of adult and child reading behavior and progress. The data analysis showed that the total means of both the adult and child part of the ACIRI were significant at the .01 level, indicating that, overall, adults and children both improved over time. All category and individual behavior means increased from the premeasure to postmeasure for both adults and children. Several showed significant differences, including the 'Enhancing Attention to Text' category, which was significant at the .01 level for both adults and children. Further analyses also determined that the more comfortable adults were in reading with their children, the higher the ACIRI scores were.

The collection of this data did provide teachers with opportunities to instruct adults in needed literacy skills and to interact with children in positive reading episodes. The adults gained by learning where they most needed to improve their reading skills when sharing books with their children. The Even Start program was able to compile useful data to report to their funders to help ensure continued financial support. Teachers tended to focus on the teaching and learning aspects of the instrument; administrators, while very excited about the educational aspects of the instrument, were also delighted to find an instrument that provided useful and needed data for program evaluation purposes.

During the pilot year, there were two major problems that emerged in conjunction with the implementation of the inventory. They both concerned parent comfort levels. The first occurred when teachers brought the inventory into the homes. Many parents, particularly those with low literacy skills, became uncomfortable at the thought of someone watching them read aloud to their children. The second issue had to do with scoring. Teachers were uncomfortable numerically scoring parents right then, and sharing those scores with them after the session. It was decided through interactive discussions with the teachers during the summer months that several steps would be taken to solve these problems.

To deal with the parents' level of discomfort, teachers now spend a great deal of time discussing the positive teaching and learning goals of the ACIRI. They explain to parents before using the inventory that the results will assist the teacher in learning how to best help the parents promote positive reading skills and instill a love of reading in their children. By using the ACIRI, teachers explain, they can decide what skills to focus on, and the parents can learn their current strengths and the places where they need improvement. Teachers attempt to emphasize the friendliness and usefulness of the instrument, rather than its evaluative nature. Because the majority of parents entering this program want to help their children to succeed in school, this approach has proven successful in most cases. In addition, because a parent's degree pf comfort is presumed to influence the results of the inventory, teachers are now beginning to note the parents' comfort level in the ACIRI data. In regard to the second and related issue of scoring, teachers decided numerical scoring was detrimental to their goals and, as stated, they now wait to score until after leaving the home. The numerical scoring still serves the purposes of program evaluation, as it was designed to do, and the teach-

ers have begun to write more qualitative comments to share with participants and to support their scores for particular behaviors.

Conclusion

The Adult/Child Interactive Reading Inventory provides a means to promote joint storybook reading and to observe the interactive behaviors of adults and children at home as they are engaged in this process. It provides important quantitative information to satisfy those who require a numerical means of judging progress and qualitative data to enrich the numerical data and expand on the reasons for assigning certain scores. Using time and adult and child development as natural interventions, the ACIRI is meant to encourage good instruction, as well as authentic and friendly assessment. It also helps teachers determine where to focus their efforts when it comes to promoting good reading behaviors.

Two key goals of Family Literacy programs are improving the literacy skills of both adults and children and encouraging adults to practice reading behaviors in family settings with their youngsters that will enhance these children's ability to do well in school. The behaviors listed in the inventory are supported by research that has demonstrated that the learning and practicing of these skills gives children a head start when they begin school, assists adults in improving their own skills, and further provides positive opportunities for families to interact around literacy together. These positive opportunities may help dispell any negative feelings adults may retain from their own school experiences. The ACIRI enables teachers to ascertain which of the skills adults and children already practice, which permits them to design individualized instruction that will improve these skills and introduce others. Teachers are also able to use the inventory as a teaching tool by going over it with the adult and child following the reading of the initial story, explaining why they received certain scores and the reasons for learning and practicing the behaviors listed. The design of this instrument provides a unique means of authenticating the progress adults and children are making as they learn to read together. By documenting these positive outcomes, the instrument also appears to satisfy the criteria for having consequential validity.

In the future, it might be helpful for programs to have more structured goals accompanying the ACIRI from which lessons can be planned and taught. Teachers could then consult these goals along with sample lessons and activities, find the ones needed and modify them for each family with which they work. Later they can spend time with individual families revisiting the behaviors that required improvement in order to determine the progress made over the school year in these areas. The author is currently preparing a manual to accompany the ACIRI which would serve this purpose. The ACIRI has also been translated into Spanish for use with Hispanic populations. In addition, the author is exploring other practical applications for the ACIRI. Because there is a similar interactive reading relationship between reading tutors and their tutees in a variety of settings serving a diversity of age groups, modifying the ACIRI to accommodate children of various ages in dif-

ferent surroundings may lead to use of the inventory as a tool for assessing the joint reading behaviors of tutors and their tutees.

Adult's Age _____ DOB _____
Child's Age _____ DOB _____

Pre _____ Post _____ Construct Level of Adult: High ____ Moderate ____ Low ____

Adult/Child Interactive Reading Inventory

SCORE (0-3)
3 = most of the time (4 or more times)
2 = some of the time (2-3 times)
1 = rarely/seldom (1 time)
0 = not observed

Teacher's Name _____ General Comments:

	ADULT BEHAVIOR	Adult's Name: Case # Date: OBSERVATION	SCORE	CHILD BEHAVIOR	Child's Name: Case # Date: OBSERVATION
	I. Enhancing Attention to Text 1. Attempts to promote and maintain physical proximity 2. Sustains interest and attention through use of child-adjusted language, positive affect and reinforcement 3. Gives child opportunity to hold book and turn pages 4. Shares book with child (i.e. displays sense of audience in book handling when reading)			**I. Enhancing Attention to Text** 1. Child seeks and maintains physical proximity 2. Child pays attention and sustains interest 3. Child holds book and turn pages on his/her own or when asked 4. Child initiates or responds to book sharing which takes his/her presence into account	
	II. Promoting Interactive Reading and Supporting Comprehension 1. Poses and solicits questions about the book's content 2. Points to pictures and words to assist child in identification and understanding 3. Relates book content and child's responses to personal experiences 4. Pauses to answer questions child poses			**II. Promoting Interactive Reading and Supporting Comprehension** 1. Child responds to questions about book 2. Child responds to parent cues or identifies pictures and words on his/her own 3. Child attempts to relate book content to personal experiences 4. Child poses questions about the story and related topics	
	III. Using Literacy Strategies 1. Identifies visual cues related to story reading (i.e pictures, repetitive words) 2. Solicits predictions 3. Asks child to recall information from the story 4. Elaborates on child's ideas			**III. Using Literacy Strategies** 1. Child responds to parent and/or identifies visual cues related to the story him/herself 2. Child is able to guess what will happen next based on picture cues 3. Child is able to recall information from story 4. Child spontaneously offers ideas about story	

NAME OF BOOK: AUTHOR:

Andrea DeBruin Parecki 6/97

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About CIERA

The Center for the Improvement of Early Reading Achievement (CIERA) is the national center for research on early reading and represents a consortium of educators in five universities (University of Michigan, University of Virginia, and Michigan State University with University of Southern California and University of Minnesota), teacher educators, teachers, publishers of texts, tests, and technology, professional organizations, and schools and school districts across the United States. CIERA is supported under the Educational Research and Development Centers Program, PR/Award Number R305R70004, as administered by the Office of Educational Research and Improvement, U.S. Department of Education.

Mission. CIERA's mission is to improve the reading achievement of America's children by generating and disseminating theoretical, empirical, and practical solutions to persistent problems in the learning and teaching of beginning reading.

CIERA Research Model

The model that underlies CIERA's efforts acknowledges many influences on children's reading acquisition. The multiple influences on children's early reading acquisition can be represented in three successive layers, each yielding an area of inquiry of the CIERA scope of work. These three areas of inquiry each present a set of persistent problems in the learning and teaching of beginning reading:

CIERA INQUIRY 1
Readers and Texts

Characteristics of readers and texts and their relationship to early reading achievement. What are the characteristics of readers and texts that have the greatest influence on early success in reading? How can children's existing knowledge and classroom environments enhance the factors that make for success?

CIERA INQUIRY 2
Home and School

Home and school effects on early reading achievment. How do the contexts of homes, communities, classrooms, and schools support high levels of reading achievement among primary-level children? How can these contexts be enhanced to ensure high levels of reading achievement for all children?

CIERA INQUIRY 3
Policy and Profession

Policy and professional effects on early reading achievement. How can new teachers be initiated into the profession and experienced teachers be provided with the knowledge and dispositions to teach young children to read well? How do policies at all levels support or detract from providing all children with access to high levels of reading instruction?

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CIERA is a collaboration of
University of Michigan
University of Virginia
Michigan State University
with
University of Minnesota
University of Southern California

University of Michigan School of Education
610 E University Av, Rm 1600 SEB
Ann Arbor, MI 48109-1259
734.647.6940 voice
734.763.1229 fax
ciera@umich.edu

www.ciera.org

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